

RAILROAD FARES IN EUROPE

Lower Rates Secured by the Adoption of the Zone System.

HOW IT WORKS IN AUSTRIA AND HUNGARY

The Result of Years of Agitation—The Idea Considered with Reference to America by a Prominent Economist.

The adoption of what is called "the zone system" of railroad tariffication by the state railroads of Hungary and Austria is attracting universal attention in Europe, and beginning to arouse much interest in the United States.

The subject has long been agitated abroad. In 1848 William Galt made a vigorous movement for lower fares in England, and since 1859 leading political economists of France, Austria and other countries have been demanding radical reforms. Theodor Hertzka, a distinguished Austrian publicist, began in 1883, a systematic movement which ended in the final adoption of his ideas by two European countries.

Prof. Edmund J. James of the University of Pennsylvania, contributes to the current number of the "Quarterly Journal of Economics" an excellent and exhaustive article on the subject, from which the following extracts are made:

HUNGARY ADOPTS THE ZONE SYSTEM.

The first movement to take a positive step in the direction of a change was the state railway office of Hungary. I have not been able to learn the whole history of the movement within railway circles in Hungary which ultimately led to such a radical experiment as that finally determined upon. It is probable that the course of popular and scientific discussion and considerable doubt with it. The chief cause, however, is undoubtedly to be sought in that circumstance which has been the occasion of nearly all the important reforms in railway matters; namely, necessity. The condition of the state roads was far from satisfactory, and the condition of the passenger traffic was the least satisfactory element in the case. The total traffic was small, the cost of service, consequently, very high, and the rates charged enormous, considering all the circumstances. The lowest rate for a single ticket was one cent per kilometer for a long-distance through ticket, third class; i. e., nearly two cents per mile. The rate for the first class was nearly four cents.

At such prohibitive rates it is plain that no very large traffic could be developed in a country like Hungary, where the greater middle class is by no means well-to-do and the poorer class is very poor, and where, moreover, the population is not so dense, comparatively speaking, and large cities are few in number. To how small an extent the railroads were utilized by the people is shown by the fact that while the average length of the railroads was 1,000 kilometers, only 100 kilometers were used daily. The average length of trips in Hungary was sixty-one kilometers, while in Germany it was only twenty-eight kilometers—a fact which shows that the local traffic in Hungary was unusually small, prevented of course in its growth by prohibitive rates in fares. Various attempts had been made to encourage the growth of passenger traffic by the introduction of reduced rates in the form of excursions, commutation and mileage tickets, and the like, but, although the traffic responded immediately, the rate of increase was not such as to show that the hoped for growth in revenues would result at any near date. The government, therefore, determined upon a radical change in working out the basis of the system, and laid down certain broad principles to be observed.

One of the prime objects was the encouragement of local traffic, which would particularly the traffic to and from the capital city, Buda-Pest. In this point the government was actuated, not merely by railroad considerations, though these, too, were in favor of such a policy, but also by social and industrial motives. Buda-Pest is not only the capital city, but the metropolis in wealth, industry, population, and political influence of the whole state. A policy which would secure the actual visiting of this center by large numbers of people from the most distant parts of the kingdom could not but result in securing a greater homogeneity in the population, and hasten that fusion of the various elements which is the greatest of all higher development in Hungary.

To attain this end, it was necessary to adopt a system of tariffication which would eliminate as far as possible the element of distance. This would be achieved by making a long distance rate relatively so low as to encourage this class of traffic. To secure a large amount of traffic, it was necessary to make a rate which should be not only relatively, but absolutely low,—a rate so low as to be within the reach of the masses of the population. To prevent an undue burdening of local traffic, it would also be necessary to reduce local rates to a point far below what they had been before, and to make rates which should be within the reach of everybody. Under the old system the peasant who had ten miles to go could not afford to walk that distance to pay the demand of the new system the rates must be so low that even the day laborer would use the trains from his home to the city.

As a result of all these considerations the authorities worked out a new system of tariffication which seemed to them likely to incorporate these features. The government had already received the name of zone-method in the discussions which had occurred in 1870 in Hungary, and this name was also adopted by the government of Hungary the system has become known throughout the world as the zone-tariff system.

The zone-tariff system is not, philosophically speaking, fundamentally different from the mileage system in use in this country, except so far as a difference of degree may constitute a difference in kind. The system in use in this country is that under which the rate per mile is fixed and the price of a ticket is ascertained by multiplying the rate per mile by the number of miles traveled, fractions of a mile being disregarded or considered as a mile in fixing the price of a ticket. In the zone-tariff system, however, the rate per mile is not uniformly adopted as the unit of calculation. A foot might be taken as the normal unit, or two miles, or ten miles, or any other number. It is evident that the rate per mile will depend ordinarily, or has at least ordinarily depended, on the unit of distance most commonly used in describing journeys of hours or days.

Now, the zone-tariff system is simply a system in which the unit of distance is a much larger unit than the kilometre or the mile. This will appear more clearly when we consider the Austrian zone-tariff is considered. It is plain, however, in the Hungarian system also, though it is there subject to important modifications. For each unit of distance (or zone) or fraction thereof, from any station a fare of 10 cents is exacted. Thus the fare for one unit and the fraction of another is 20 cents; for two units and the fraction of another, 30 cents; for three units and a fraction, 40 cents; and so on up to the eleventh unit, when a sum of 30 cents is charged for each unit or fraction thereof, with this important modification, namely, that the rate includes all stations beyond the completed twelfth unit. Now, the unit of distance which is taken as the basis of all tariffs is, generally speaking, the kilometre, and is three-tenths of an English mile. As the fare charge, therefore, is 10 cents the fare for nine times that distance, or nearly five miles, would be 90 cents; that is, one could ride ninety-three miles for \$1, but would also have to pay the same sum if he rode only eighty-four miles. Just so under the zone-tariff system one would pay, at 8 cents a mile, or 6 cents if he rode 10.50 feet, but would also have to pay the same sum if he rode only 1.25 feet.

This simple system is modified in several ways in the Hungarian method. Thus the first unit of distance is twenty-five kilometers (15.5 miles); the second unit is 25 kilometers, and the third unit includes all stations beyond the close of the twelfth unit. For the eleventh, twelfth and thirteenth units 30 cents each is charged, making the maximum fare to any station

within the kingdom from any other one \$1.00.

The last provision, however, is subject to one very important modification, namely, if the traveler's route is a direct one, he must buy a ticket first to that place and then another from there to the station he wishes to reach. This may seem a very curious circumstance, but the fare which he would otherwise have to pay for a journey of equal distance, Buda-Pest is practically a limit, therefore, the application of the zone system having the same effect as a boundary line of Hungary itself.

It is plain from what precedes that the rates of fare are much lower under the new system than they were under the old. In no case beyond the first zone do they exceed 14 cents per mile, and for the immensely greater number of cases they are less than 1 cent per mile. For the stations beyond 140 miles the rate per mile decreases with the distance, falling on the longest trip, which can be made from \$1.00 to 30-100 of a cent. This is the rate to Kronstadt, distant from Buda-Pest 404 miles.

The great reductions are best seen by comparing absolute rates under the old and new systems. The old rate to Kronstadt was \$8.50, the new rate is \$4.00—a reduction of 53 per cent. This is, of course, the extreme reduction. But the reduction to a station 248 miles away is 50 per cent, to a station 168 miles away over 50 per cent. The average reduction on local rates is about 40 per cent on the basis of railway estimates. Besides these rates which represent the price paid for a single-trip ticket by any one who chooses to buy, there are also commutation tickets which afford still cheaper rates. Thus from Buda-Pest to Mafod, fourteen miles, one can get a book containing 100 tickets for a little less than 54 cents per trip. These books are transferable, and the owner may use them for persons accompanying him. A 20-cent, thirty-three miles distant, a similar book can be obtained for \$9.00, or 10 cents a trip.

AUSTRIA FOLLOWS HUNGARY'S LEAD.

In turning from the Hungarian to the Austrian experiment, one is struck both by the similarity and differences. They are both zone-systems, both involving a great reduction in rates over the old systems, and both are very simple in the general plan as well as in the details. The differences will appear more clearly after a discussion of the Austrian system.

There is a sort of permanent rivalry between the Austrian provinces and Hungary in all matters pertaining to industry as well as politics. When the Hungarian management adopted the zone-system, the public in Austria criticized the Austrian railroads for their slowness and seeming neglect of public interest. The management of the Austrian roads has been, therefore, somewhat on the defensive.

The new system went into operation in Austria on June 16, 1880. The basis of rates is very simple. The lowest monetary unit of the country (the kreutzer) combined with the shortest long distance unit of measurement (the kilometre) is made the unit of calculation. The fundamental rate of calculation is one kreutzer per kilometre, the kreutzer being four mills and the kilometre .221 mile. This is equal to a rate of 6 1/2 mills per mile. The price for second class is double and for first class double this sum. These rates are increased 50 per cent for express trains. The privilege of free baggage is abolished.

If the kilometre were made the basis of computing the price of tickets, this system would not differ essentially from the zone system in use. But in determining the fare the unit of distance is not, but 10 kilometres for all distances under 50 kilometres, 15 kilometres for all distances between 50 and 100 kilometres, 20 kilometres from 100 to 150, and 30 kilometres for all distances over 150 kilometres. Thus the fare for the first unit of distance, i. e., 10 kilometres, is 10 kreutzers; for the second unit, 15 kilometres, 15 kreutzers; for the third, 20 kilometres, 20 kreutzers; for the fourth, 25 kilometres, 25 kreutzers; for the fifth, 30 kilometres, 30 kreutzers. The eighth unit has 20 kilometres, and the additional price is 20 kreutzers; while after that each unit has 50 kilometres, and the additional price is 50 kreutzers.

The distance up to 300 kilometres is thus divided into twelve units or zones, and there are as many zones after that as there are stretches of 50 kilometres each or fractions thereof. Tickets are sold by zones at the rate of:

I.	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
II.	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
III.	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500	10000
IV.	10000	15000	20000	25000	30000	35000	40000	45000	50000	55000	60000	65000	70000	75000	80000	85000	90000	95000	100000
V.	100000	150000	200000	250000	300000	350000	400000	450000	500000	550000	600000	650000	700000	750000	800000	850000	900000	950000	1000000
VI.	1000000	1500000	2000000	2500000	3000000	3500000	4000000	4500000	5000000	5500000	6000000	6500000	7000000	7500000	8000000	8500000	9000000	9500000	10000000
VII.	10000000	15000000	20000000	25000000	30000000	35000000	40000000	45000000	50000000	55000000	60000000	65000000	70000000	75000000	80000000	85000000	90000000	95000000	100000000
VIII.	100000000	150000000	200000000	250000000	300000000	350000000	400000000	450000000	500000000	550000000	600000000	650000000	700000000	750000000	800000000	850000000	900000000	950000000	1000000000
IX.	1000000000	1500000000	2000000000	2500000000	3000000000	3500000000	4000000000	4500000000	5000000000	5500000000	6000000000	6500000000	7000000000	7500000000	8000000000	8500000000	9000000000	9500000000	10000000000
X.	10000000000	15000000000	20000000000	25000000000	30000000000	35000000000	40000000000	45000000000	50000000000	55000000000	60000000000	65000000000	70000000000	75000000000	80000000000	85000000000	90000000000	95000000000	100000000000

kreutzers for the corresponding zones—the number of kreutzers representing also the number of kilometres included up to the end of the respective zone. It will be seen that the system is very simple. The tickets contain the number of the zone, the name of the station to which they apply, and also the name of the last station, on all the lines of the system, in the particular zone to which the ticket entitles the holder to transportation. In arranging the zones, the whole group of railroads in Austria to which this method applies is divided into sections, and the actual distribution of the zones are posted in all the stations so that the traveler can see at a glance for what distance he must take a ticket. The variety of tickets is very small compared with the old plan. The system is still further simplified by the fact that two third class tickets may be presented in lieu of one first class, and three third class in lieu of one first class. This enables small stations to get along with one kind of ticket, a great advantage from the point of administration.

It is plain from the above statement that the Austrian system differs in some important particulars from the Hungarian. The first place, it does not favor long distance traffic to such an extent as the latter. As seen above, one may ride in Hungary 231 kilometres for 231 kreutzers, or 231 miles for 231 kreutzers to ride that distance in Austria. On the other hand, it never costs more than 10 cents to ride in Hungary, although the route lie on one side of Buda-Pest and the other half on the other, it would cost 800 kreutzers for the same distance. The rate in Austria for distances up to 225 kilometres are cheaper than in Hungary. A ticket for 210 kilometres in Austria costs 210 kreutzers; in Hungary, 350; for 180 kilometres in Austria, 180; in Hungary, 175; for 75 kilometres in Austria, 80; in Hungary, 125. The differences between the two systems are not so great as they appear. If one wishes to go, say 24 kilometres, the cost in Austria would be 30, and in Hungary 25 kreutzers. The local traffic in Austria is, therefore, not so cheap as in Hungary. On the other hand, a trunk weighing 150 kilograms would cost 140 kreutzers in Hungary for 73 kilometres, while in Austria it would cost 1,193 kreutzers, or five times as much. If we take the average length of a trunk weighing 150 kilograms, the system, 61 kilometres, as a basis of comparison, 50 kilograms as the average amount of goods carried, and what bearing all this revenue has on the system, it appears to be as follows: In Hungary the fare for a ticket, including the charge for baggage, would be 150 kreutzers; in Austria it would be 1,193. The difference is 1,043 kreutzers, or 37 kilometres, as the basis, the rate would be: In Hungary, 75 kreutzers; in Austria, 77.

With reference to American roads. Before closing, it may be worth while to consider the question of what bearing all this revenue has on the system, it appears to be as follows: In Hungary the fare for a ticket, including the charge for baggage, would be 150 kreutzers; in Austria it would be 1,193. The difference is 1,043 kreutzers, or 37 kilometres, as the basis, the rate would be: In Hungary, 75 kreutzers; in Austria, 77.

depends on the person to be seen, the business to be done, the place to be visited, and not on the number of miles to be covered in getting there. Indeed, one may say that the traveler's route is a direct one, he must buy a ticket first to that place and then another from there to the station he wishes to reach. This may seem a very curious circumstance, but the fare which he would otherwise have to pay for a journey of equal distance, Buda-Pest is practically a limit, therefore, the application of the zone system having the same effect as a boundary line of Hungary itself.

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DIME EDISON MUSEUM THE GREAT MASTODON KENTUCKY GIANT

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WEEK OF JANUARY 26.

Mr. Craig wears a solid gold combination badge, which cost \$250, presented to him at the Centennial Exposition, Philadelphia, Pa., 1876, by his brethren of 'Adherndt Lodge, No. 124, K. of P., Silcox Lodge No. 123, I. O. O. F., and Tuscarora Tribe, No. 49, Improved Order of Redmen, which is a beauty, and in itself worth inspection.



Mr. Craig is acknowledged the world over to be the biggest man on earth. He is the biggest Odd Fellow, the biggest K. of P., and the biggest Redman living. He also belongs to the Masons and the Knights of Honor, and has been shown marked courtesies by all of his brethren wherever he visits.

HIS WIFE is 27 years of age, and weighs but 130 pounds.

HIS CHILD is 6 weeks old and weighs 17 pounds, giving promise of being a second Craig.

Millions have lived since creation, but Craig IS THE BIGGEST

A wonder to the medical world.

His equal never yet born. He has the rare art of entertaining, and asks all friends and lodge brethren to call on him.

JOHN HANSON CRAIG The Nineteenth Century Wonder.

IN OUR BIJOU AND VAUDEVILLE THEATRES

FRANKIE - - THE HALLS - - JAMES THE CARPENTER SISTERS, Introducing the Latest Original Specialty--The Lightning Make up. Kittie Morris - Henry Williams. THE FAMOUS BILLY YOUNG, THE BEST ENTERTAINMENT OF THE YEAR.

HUNTING FOR HANS PETERSON.